
APPENDIX C

Emissions, Air Quality, and Health Risk for Ten Toxic Air Contaminants

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Introduction

This appendix contains TAC emissions data for all counties in California. It also contains air quality and health risk data for counties and individual sites within California's five most populous air basins: South Coast Air Basin, San Francisco Bay Area Air Basin, San Joaquin Valley Air Basin, San Diego Air Basin, and Sacramento Valley Air Basin. It is important to note that some counties are located in more than one air basin. For these counties, the data are for that portion of the county located in each air basin. The ten toxic air contaminants (TACs) presented here are the same as the TACs discussed in Chapter 5: acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, *para*-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (diesel PM). Based on available data, these TACs pose the most substantial health risks in California. There may be other TACs that pose a substantial risk, but for which data are not available.

The countywide emissions data represent tons per year from the 2003 emission inventory year. The data for stationary sources include emissions data associated with the air toxics

“Hot Spots” Program. The toxic air contaminant emissions for each area-wide and mobile source category are calculated by applying a speciation profile, maintained by ARB staff, to the total organic gas and total particulate matter criteria pollutant emissions associated with that category.

For all source categories associated with diesel fuel combustion, all “PM” emitted from these sources was considered “diesel PM.” The area-wide source emission estimates were made by either the local districts or the ARB staff. These estimates have been speciated for toxics. The other mobile source emission estimates are primarily from ARB's OFFROAD model, speciated for toxics. For the categories not currently included in the model, the emission estimates have been developed by either local districts or ARB staff. Districts may also provide estimates for categories normally developed by ARB staff. Finally, the on-road mobile source emission estimates are based on the current model, EMFAC 2002, version 2.2 (April 2003, with SCAG June 2002 activity data). Again, the emission estimates have been speciated for toxics.

Readers may note that the stationary source diesel PM emission estimates differ from those presented in previous editions of the almanac and in the ARB's October 2000 report entitled: *"Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles"* (Diesel Risk Reduction Plan). This is because they incorporate more recent data and have been calculated with updated methodologies developed for new regulations. These regulations are those that were recommended in the Diesel Risk Reduction Plan. The on-road mobile source emissions cited in the Diesel Risk Reduction Plan are based on an earlier version of EMFAC 2001 (EMFAC 1.99(f) 6/26/00) and the other mobile inventory includes revised estimates for ship diesel PM emissions.

In addition to the emissions data, air quality and health risk data are available for 1990 through 2002. It is important to note that the data reflect concentrations measured at a specific location or, in the case of the air basin summary data, spatially averaged concentrations. Therefore, the ambient concentrations and health risks for other locations may be higher or lower. Furthermore, the information reflects data collected only at monitoring sites operated by the ARB.

*County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin***Great Basin Valleys Air Basin**

TAC	Alpine	Inyo	Mono
Acetaldehyde	7	15	31
Benzene	25	17	56
1,3-Butadiene	6	4	14
Carbon Tetrachloride	0	0	0
Hexavalent Chromium	< .01	< .01	0.02
<i>para</i> -DiChlorobenzene	< 1	< 1	< 1
Formaldehyde	24	28	73
Methylene Chloride	< 1	2	1
Perchloroethylene	< 1	4	3
Diesel PM	0	18	14

Table C-1

Lake County Air Basin

TAC	Lake
Acetaldehyde	40
Benzene	79
1,3-Butadiene	19
Carbon Tetrachloride	0
Hexavalent Chromium	< .01
<i>para</i> -DiChlorobenzene	3
Formaldehyde	92
Methylene Chloride	8
Perchloroethylene	13
Diesel PM	51

Table C-2

County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin

Lake Tahoe Air Basin

TAC	El Dorado ¹	Placer ¹
Acetaldehyde	38	18
Benzene	37	13
1,3-Butadiene	10	3
Carbon Tetrachloride	< .01	0
Hexavalent Chromium	< .01	< .01
<i>para</i> -DiChlorobenzene	2	< 1
Formaldehyde	76	28
Methylene Chloride	5	4
Perchloroethylene	6	2
Diesel PM	31	5

1. This Air Basin includes only a portion of this county.

Table C-3

Mojave Desert Air Basin

TAC	Kern ¹	Los Angeles ¹	Riverside ¹	San Bernardino ¹
Acetaldehyde	113	61	5	160
Benzene	94	89	9	245
1,3-Butadiene	42	21	2	53
Carbon Tetrachloride	0.02	< .01	< .01	0.10
Hexavalent Chromium	0.29	0.02	< .01	0.01
<i>para</i> -DiChlorobenzene	6	19	1	23
Formaldehyde	350	164	15	491
Methylene Chloride	14	98	4	79
Perchloroethylene	14	50	5	110
Diesel PM	153	222	14	608

1. This Air Basin includes only a portion of this county.

Table C-4

*County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin***Mountain Counties Air Basin**

TAC	Amador	Calaveras	El Dorado¹	Mariposa	Nevada	Placer¹	Plumas	Sierra	Tuolumne
Acetaldehyde	34	44	81	24	107	18	67	12	57
Benzene	51	77	90	43	89	24	151	37	102
1,3-Butadiene	17	24	21	11	22	6	47	11	26
Carbon Tetrachloride	0	0	0	0	0	0	0	0	0
Hexavalent Chromium	< .01	< .01	< .01	< .01	< .01	< .01	< .01	< .01	0.08
<i>para</i> -DiChlorobenzene	2	2	7	< 1	5	1	1	< 1	3
Formaldehyde	71	98	146	54	177	37	177	38	136
Methylene Chloride	5	5	17	2	20	6	2	< 1	9
Perchloroethylene	5	7	18	3	15	5	4	< 1	9
Diesel PM	33	37	57	16	72	36	54	4	53

1. This Air Basin includes only a portion of this county.

Table C-5

North Central Coast Air Basin

TAC	Monterey	San Benito	Santa Cruz
Acetaldehyde	109	17	64
Benzene	199	22	95
1,3-Butadiene	61	14	18
Carbon Tetrachloride	0	0	0
Hexavalent Chromium	0.01	< .01	< .01
<i>para</i> -DiChlorobenzene	22	3	14
Formaldehyde	272	38	132
Methylene Chloride	72	8	53
Perchloroethylene	101	12	84
Diesel PM	320	64	138

Table C-6

County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin

North Coast Air Basin

TAC	Del Norte	Humboldt	Mendocino	Sonoma ¹	Trinity
Acetaldehyde	22	89	67	31	20
Benzene	16	91	71	70	30
1,3-Butadiene	16	25	17	15	14
Carbon Tetrachloride	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium	< .01	< .01	0.01	0.03	< .01
<i>para</i> -DiChlorobenzene	2	7	5	3	< 1
Formaldehyde	36	162	126	79	40
Methylene Chloride	5	18	14	13	2
Perchloroethylene	6	28	20	15	3
Diesel PM	40	218	150	90	12

1. This Air Basin includes only a portion of this county.

Table C-7

Northeast Plateau Air Basin

TAC	Lassen	Modoc	Siskiyou
Acetaldehyde	60	22	83
Benzene	99	11	100
1,3-Butadiene	24	5	64
Carbon Tetrachloride	0.00	0.00	0.00
Hexavalent Chromium	< .01	< .01	< .01
<i>para</i> -DiChlorobenzene	2	< 1	2
Formaldehyde	135	36	161
Methylene Chloride	4	1	6
Perchloroethylene	6	2	8
Diesel PM	62	53	124

Table C-8

*County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin***Sacramento Valley Air Basin**

TAC	Butte	Colusa	Glenn	Placer¹	Sacramento	Shasta	Solano¹	Sutter	Tehama	Yolo	Yuba
Acetaldehyde	101	16	24	81	221	140	32	40	48	63	44
Benzene	135	35	41	118	372	157	88	68	38	73	53
1,3-Butadiene	39	19	17	25	75	44	13	11	11	15	20
Carbon Tetrachloride	0	0	0	0	0.06	0	< .01	0	< .01	0	0
Hexavalent Chromium	< .01	< .01	< .01	< .01	0.02	< .01	< .01	0.02	< .01	< .01	< .01
<i>para</i> -DiChlorobenzene	11	1	1	11	65	9	6	4	3	9	3
Formaldehyde	256	59	87	195	537	274	82	108	80	134	117
Methylene Chloride	33	2	3	48	182	22	16	10	7	25	8
Perchloroethylene	32	3	4	34	197	32	14	12	10	25	9
Diesel PM	230	75	89	182	785	211	130	209	112	326	79

1. This Air Basin includes only a portion of this county.

Table C-9

Salton Sea Air Basin

TAC	Imperial	Riverside¹
Acetaldehyde	101	37
Benzene	155	80
1,3-Butadiene	39	18
Carbon Tetrachloride	0	0
Hexavalent Chromium	0.02	< .01
<i>para</i> -DiChlorobenzene	9	17
Formaldehyde	293	112
Methylene Chloride	20	64
Perchloroethylene	26	42
Diesel PM	273	166

1. This Air Basin includes only a portion of this county.

Table C-10

County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin

San Diego Air Basin

TAC	San Diego
Acetaldehyde	533
Benzene	966
1,3-Butadiene	229
Carbon Tetrachloride	0.12
Hexavalent Chromium	0.23
<i>para</i> -DiChlorobenzene	158
Formaldehyde	1400
Methylene Chloride	381
Perchloroethylene	618
Diesel PM	1704

Table C-11

San Francisco Bay Area Air Basin

TAC	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano ¹	Sonoma ¹
Acetaldehyde	308	173	55	36	150	153	270	113	94
Benzene	432	351	127	68	215	252	539	127	133
1,3-Butadiene	94	69	28	14	42	62	109	44	27
Carbon Tetrachloride	0.03	1.46	< .01	< .01	0	< .01	< .01	< .01	0.02
Hexavalent Chromium	0.03	< .01	< .01	< .01	< .01	0.02	0.02	0.02	< .01
<i>para</i> -DiChlorobenzene	77	50	13	7	41	39	92	15	21
Formaldehyde	654	488	148	89	356	411	736	328	202
Methylene Chloride	260	132	35	19	119	119	323	42	84
Perchloroethylene	184	106	43	12	115	114	223	27	46
Diesel PM	910	705	162	112	773	400	914	162	302

1. This Air Basin includes only a portion of this county.

Table C-12

*County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin***San Joaquin Valley Air Basin**

TAC	Fresno	Kern¹	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare
Acetaldehyde	250	198	98	65	80	169	128	138
Benzene	338	527	69	88	104	244	171	165
1,3-Butadiene	81	57	36	25	37	56	52	103
Carbon Tetrachloride	< .01	< .01	0	0	0	0	0	0
Hexavalent Chromium	0.05	0.04	0.02	< .01	< .01	0.03	0.03	< .01
<i>para</i> -DiChlorobenzene	45	36	7	7	12	32	26	21
Formaldehyde	580	794	288	170	186	404	297	308
Methylene Chloride	129	70	15	16	26	75	61	46
Perchloroethylene	130	82	20	20	38	90	66	58
Diesel PM	1027	764	191	220	319	696	467	535

1. This Air Basin includes only a portion of this county.

Table C-13

South Central Coast Air Basin

TAC	San Luis Obispo	Santa Barbara	Ventura
Acetaldehyde	85	104	129
Benzene	129	298	259
1,3-Butadiene	36	57	108
Carbon Tetrachloride	0.	< .01	0.05
Hexavalent Chromium	< .01	< .01	0.03
<i>para</i> -DiChlorobenzene	14	22	38
Formaldehyde	206	472	344
Methylene Chloride	44	106	160
Perchloroethylene	61	77	73
Diesel PM	251	268	479

Table C-14

County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin

South Coast Air Basin

TAC	Los Angeles ¹	Orange	Riverside ¹	San Bernardino ¹
Acetaldehyde	959	330	209	207
Benzene	2588	917	417	431
1,3-Butadiene	518	172	91	99
Carbon Tetrachloride	0.51	< .01	< .01	< .01
Hexavalent Chromium	0.37	0.05	0.04	0.04
para-DiChlorobenzene	494	155	68	71
Formaldehyde	3177	1051	607	568
Methylene Chloride	2618	1061	260	473
Perchloroethylene	1761	556	183	238
Diesel PM	4570	1678	999	801

1. This Air Basin includes only a portion of this county.

Table C-15

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Air Quality and Health Risk

The air quality and health risk data in the following tables cover the time period of 1990 through 2002. Annual average concentrations and health risks are listed by site for California's five most populous air basins. The ten TACs presented here are ones that pose the most substantial health risk in California based on available data: acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, *para*-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel PM. The ambient data for all TACs except diesel PM are based on concentrations measured at sites in California's TAC monitoring network. The annual average concentration is calculated as the mean of the monthly means, and the concentration is available only if a full year of data is available. The associated health risk is based on the annual average concentration and represents the estimated number of excess cancer cases per million people exposed to the specified concentration for 70 years.

For diesel PM, the ARB previously made a preliminary estimation of concentrations for the State's 15 air basins using a PM-

based exposure method. The method uses the ARB emission inventory's PM₁₀ database, ambient PM₁₀ monitoring data, and the results from several studies with chemical speciation of ambient data. These data were used, along with receptor modeling techniques, to estimate statewide outdoor concentrations of diesel PM. Details on the method and the resulting estimates can be found in the ARB report entitled: *"Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles,"* (October 2000).

Numerous factors influence the ambient TAC measurements, and a number of assumptions are embodied in the summary statistics. These factors are described in Chapter 1 under the heading *"Interpreting the Emission and Air Quality Statistics."* These factors must be considered when using the statistics presented here. Finally, it is important to note that the data provided reflect concentrations measured at a specific location or, in the case of the air basin summary data, spatially averaged concentrations. The ambient concentrations and health risks for other locations may be higher or lower.

South Coast Air Basin

Los Angeles County: Azusa

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg											1.10	1.31	
	Health Risk											5	6	
Benzene	Annual Avg											0.69		0.62
	Health Risk											64		57
1,3-Butadiene	Annual Avg											0.15		0.14
	Health Risk											55		51
Carbon Tetrachloride	Annual Avg											0.09		0.09
	Health Risk											24		24
Chromium, Hexavalent	Annual Avg											0.12		
	Health Risk											19		
<i>para</i> -Dichlorobenzene	Annual Avg											0.10		0.15
	Health Risk											7		10
Formaldehyde	Annual Avg											3.05	3.80	
	Health Risk											22	28	
Methylene Chloride	Annual Avg											1.32		1.00
	Health Risk											5		3
Perchloroethylene	Annual Avg											0.18		0.15
	Health Risk											7		6
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk												208	34	151

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-16

South Coast Air Basin

Los Angeles County: Burbank - West Palm Avenue

Annual Average Concentrations and Health Risks														
TAC	Conc./Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	3.16	3.89		3.06	2.46	0.79			1.94	2.70	1.70	1.93	1.96
	Health Risk	15	19		15	12	4			9	13	8	9	10
Benzene	Annual Avg	4.79	3.91	3.44	2.63	3.33	2.45	1.91	1.48	1.66	1.64	1.27	1.06	1.01
	Health Risk	444	362	319	244	308	227	177	137	154	151	117	98	93
1,3-Butadiene	Annual Avg	0.78	0.62	0.73	0.75	0.75	0.61	0.51	0.42	0.48	0.48	0.35	0.33	0.28
	Health Risk	294	234	272	282	283	227	192	158	182	181	130	123	106
Carbon Tetrachloride	Annual Avg	0.14	0.13				0.10	0.08		0.11		0.09	0.09	0.09
	Health Risk	37	35				28	22		30		25	23	24
Chromium, Hexavalent	Annual Avg			0.65	0.37	0.43	1.24			0.23	0.20	0.19		0.12
	Health Risk			97	55	64	186			34	29	28		18
<i>para</i> -Dichlorobenzene	Annual Avg		0.23	0.22	0.19	0.14	0.20	0.10	0.11			0.13	0.15	0.17
	Health Risk		15	15	12	9	13	7	7			8	10	11
Formaldehyde	Annual Avg	4.05	3.59		3.66	3.92	4.58			4.72	6.07	4.14	4.87	5.48
	Health Risk	30	26		27	29	34			35	45	30	36	40
Methylene Chloride	Annual Avg	3.25	1.69	1.42	2.01	1.94	1.82	1.41	1.11	1.07		0.80	0.60	0.60
	Health Risk	11	6	5	7	7	6	5	4	4		3	2	2
Perchloroethylene	Annual Avg	1.19	0.79	0.61	0.62	0.66	0.49	0.44	0.37	0.50		0.37	0.30	0.25
	Health Risk	48	31	24	25	26	19	18	15	20		15	12	10
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		879	728	732	667	738	744	421	321	468	419	364	313	314

*. Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-17

South Coast Air Basin

Los Angeles County: North Main Street

Annual Average Concentrations and Health Risks														
TAC	Conc./Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	2.68	2.78	2.50	2.89	2.35	1.28	2.33			1.43	0.84	1.45	1.30
	Health Risk	13	13	12	14	11	6	11			7	4	7	6
Benzene	Annual Avg	3.50	3.25	2.97	2.54	2.45	2.24	1.86		1.36	1.50	1.04	1.03	
	Health Risk	324	301	275	235	227	207	173		126	139	97	95	
1,3-Butadiene	Annual Avg	0.60	0.55	0.64	0.73	0.59	0.60	0.54		0.42	0.43	0.30	0.31	
	Health Risk	226	206	242	276	221	225	204		158	162	111	118	
Carbon Tetrachloride	Annual Avg	0.14	0.13				0.10	0.08		0.11		0.10	0.09	
	Health Risk	36	35				27	21		30		26	23	
Chromium, Hexavalent	Annual Avg				0.24	0.27	0.23	0.17			0.11	0.13		0.13
	Health Risk				36	40	35	25			16	19		20
<i>para</i> -Dichlorobenzene	Annual Avg		0.19	0.22	0.19	0.16	0.19	0.12				0.16	0.17	
	Health Risk		13	14	12	10	13	8				11	11	
Formaldehyde	Annual Avg	3.50	3.00	2.30	3.23	3.54	4.13	5.87			3.88	2.42	4.30	4.32
	Health Risk	26	22	17	24	26	30	43			29	18	32	32
Methylene Chloride	Annual Avg	1.28	2.72	0.68	1.05	1.06	1.51	1.10		0.80	1.20	0.68	0.74	
	Health Risk	4	9	2	4	4	5	4		3	4	2	3	
Perchloroethylene	Annual Avg	0.55	0.60	0.54	0.59	0.50	0.57	0.50		0.23		0.19	0.18	
	Health Risk	22	24	21	24	20	23	20		9		7	7	
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		651	623	583	625	559	571	509		326	357	295	296	58

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-18

South Coast Air Basin

Los Angeles County: North Long Beach

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	2.49	2.52		2.36	2.18	0.81		1.43			1.16	1.11	
	Health Risk	12	12		11	11	4		7			6	5	
Benzene	Annual Avg	3.53	2.45	2.60	1.99	2.04	1.69		1.24	1.16	1.11	1.00		0.71
	Health Risk	327	227	241	185	188	157		115	108	103	92		65
1,3-Butadiene	Annual Avg	0.59	0.44	0.52	0.58	0.45	0.45		0.36	0.34	0.32	0.28		0.20
	Health Risk	223	165	197	216	168	169		137	127	121	104		75
Carbon Tetrachloride	Annual Avg	0.14	0.13				0.10			0.12		0.10		0.09
	Health Risk	37	34				26			31		26		24
Chromium, Hexavalent	Annual Avg			0.44	0.34	0.22	0.25		0.15	0.11	0.12	0.12		0.08
	Health Risk			66	51	33	38		22	16	18	18		12
<i>para</i> -Dichlorobenzene	Annual Avg		0.17	0.26	0.19	0.12	0.17		0.16			0.13		0.18
	Health Risk		11	17	13	8	11		10			8		12
Formaldehyde	Annual Avg	2.97	2.76		3.22	3.06	3.29		3.68			2.88	2.96	
	Health Risk	22	20		24	23	24		27			21	22	
Methylene Chloride	Annual Avg	2.05	0.88	1.00	1.15	0.84	0.98		0.74	0.60		0.65		0.27
	Health Risk	7	3	3	4	3	3		3	2		2		1
Perchloroethylene	Annual Avg	0.48	0.36	0.35	0.43	0.32	0.32		0.23	0.19		0.17		0.10
	Health Risk	19	14	14	17	13	13		9	8		7		4
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		647	486	538	521	447	445		330	292	242	284	27	193

*. Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-19

South Coast Air Basin

Riverside County: Riverside - Rubidoux

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.87	2.54	1.86	2.19	2.08	0.89	1.84			1.36	1.49	1.58	1.66
	Health Risk	9	12	9	11	10	4	9			7	7	8	8
Benzene	Annual Avg	2.55	2.22	1.90	1.77	2.01	1.45	1.03			0.87	0.85	0.69	
	Health Risk	236	206	176	164	186	134	95			80	79	63	
1,3-Butadiene	Annual Avg	0.34	0.31	0.29	0.38	0.36	0.33	0.27			0.21	0.19	0.18	
	Health Risk	128	117	110	143	136	125	100			78	72	66	
Carbon Tetrachloride	Annual Avg	0.13	0.14				0.10	0.08				0.10	0.09	
	Health Risk	34	36				27	21				25	23	
Chromium, Hexavalent	Annual Avg			0.33	0.33	0.36	0.38	0.22			0.19	0.35		0.41
	Health Risk			50	50	55	56	33			29	52		62
<i>para</i> -Dichlorobenzene	Annual Avg		0.13	0.13	0.16	0.12	0.17	0.11				0.14	0.15	
	Health Risk		9	8	10	8	11	7				9	10	
Formaldehyde	Annual Avg	1.75	2.70	1.53	2.73	2.50	2.65	4.15			3.55	3.17	4.73	4.36
	Health Risk	13	20	11	20	18	19	31			26	23	35	32
Methylene Chloride	Annual Avg		0.69	0.60	1.10	0.93	0.98	0.83			0.58	0.69	0.44	
	Health Risk		2	2	4	3	3	3			2	2	2	
Perchloroethylene	Annual Avg	0.24	0.28	0.20	0.20	0.19	0.18	0.18				0.13	0.11	
	Health Risk	9	11	8	8	8	7	7				5	4	
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		429	413	374	410	424	386	306			222	274	211	102

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-20

South Coast Air Basin

San Bernardino County: Fontana - Arrow Highway

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg													
	Health Risk													
Benzene	Annual Avg									0.98				
	Health Risk									91				
1,3-Butadiene	Annual Avg									0.24				
	Health Risk									92				
Carbon Tetrachloride	Annual Avg									0.11				
	Health Risk									30				
Chromium, Hexavalent	Annual Avg													
	Health Risk													
<i>para</i> -Dichlorobenzene	Annual Avg													
	Health Risk													
Formaldehyde	Annual Avg													
	Health Risk													
Methylene Chloride	Annual Avg									0.59				
	Health Risk									2				
Perchloroethylene	Annual Avg									0.18				
	Health Risk									7				
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk										222				

*. Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-21

South Coast Air Basin

San Bernardino County: Upland - San Bernardino Road

		Annual Average Concentrations and Health Risks												
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	2.12	3.28	2.36	2.84	2.42	1.09	2.13						
	Health Risk	10	16	11	14	12	5	10						
Benzene	Annual Avg	2.73	2.70	2.14	1.92	2.15	1.62	1.11	1.11					
	Health Risk	253	250	198	178	199	150	103	103					
1,3-Butadiene	Annual Avg	0.35	0.34	0.31	0.39	0.34	0.31	0.26	0.25					
	Health Risk	131	128	116	147	126	117	97	95					
Carbon Tetrachloride	Annual Avg	0.13	0.14		0.10		0.10	0.08						
	Health Risk	35	36		27		26	20						
Chromium, Hexavalent	Annual Avg			0.22	0.16	0.16	0.20	0.12						
	Health Risk			33	24	24	30	17						
<i>para</i> -Dichlorobenzene	Annual Avg		0.13	0.14	0.14	0.10	0.13	0.10	0.14					
	Health Risk		9	9	9	7	9	7	9					
Formaldehyde	Annual Avg	2.35	3.34	1.98	3.25	2.67	3.21	5.20						
	Health Risk	17	25	15	24	20	24	38						
Methylene Chloride	Annual Avg	1.41	1.59	0.82	0.87	0.72	1.13	0.66	1.70					
	Health Risk	5	6	3	3	3	4	2	6					
Perchloroethylene	Annual Avg	0.42	0.72	0.36	0.40	0.29	0.26	0.20	0.21					
	Health Risk	17	29	15	16	11	11	8	8					
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		468	499	400	442	402	376	302	221					

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-22

South Coast Air Basin

Air Basin Summary

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	2.46	3.00	2.46	2.67	2.30	0.97	2.08	1.77	1.54	1.63	1.26	1.47	1.41
	Health Risk	12	15	12	13	11	5	10	9	7	8	6	7	7
Benzene	Annual Avg	3.42	2.91	2.61	2.17	2.40	1.89	1.45	1.34	1.25	1.20	0.97	0.86	0.77
	Health Risk	317	269	242	201	222	175	134	124	116	111	90	80	71
1,3-Butadiene	Annual Avg	0.53	0.45	0.50	0.57	0.50	0.46	0.39	0.38	0.35	0.33	0.25	0.25	0.21
	Health Risk	200	170	187	212	187	173	146	142	133	123	94	94	79
Carbon Tetrachloride	Annual Avg	0.14	0.13		0.11		0.10	0.08		0.11		0.10	0.09	0.09
	Health Risk	36	35		28		27	21		30		25	23	24
Chromium, Hexavalent	Annual Avg			0.39	0.29	0.29	0.46	0.18	0.17	0.15	0.14	0.18		
	Health Risk			59	43	43	69	27	25	22	22	27		
<i>para</i> -Dichlorobenzene	Annual Avg		0.17	0.19	0.17	0.13	0.17	0.11	0.13			0.13	0.15	0.16
	Health Risk		11	13	11	8	11	7	9			9	10	11
Formaldehyde	Annual Avg	2.92	3.08	2.22	3.22	3.14	3.57	5.06	4.47	3.79	4.06	3.13	4.13	4.16
	Health Risk	22	23	16	24	23	26	37	33	28	30	23	30	31
Methylene Chloride	Annual Avg	1.86	1.51	0.90	1.23	1.10	1.28	0.95	1.14	0.85	0.92	0.83	0.63	0.57
	Health Risk	6	5	3	4	4	4	3	4	3	3	3	2	2
Perchloroethylene	Annual Avg	0.58	0.55	0.41	0.45	0.39	0.36	0.32	0.27	0.26		0.21	0.18	0.15
	Health Risk	23	22	16	18	16	15	13	11	10		8	7	6
Diesel PM***	Annual Avg	(3.6)					(2.7)					(2.4)		
	Health Risk	(1080)					(810)					(720)		
Average Basin Health Risk		616	550	548	554	514	505	398	357	349	297	285	253	231

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

*** The Diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, Diesel PM is not included in the Average Basin Health Risk number.

Table C-23

San Francisco Bay Area Air Basin

Alameda County: Fremont - Chapel Way

Annual Average Concentrations and Health Risks														
TAC	Conc./Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.28	1.60	1.02	1.28	1.23	0.35	0.88	0.65	0.72				
	Health Risk	6	8	5	6	6	2	4	3	4				
Benzene	Annual Avg	1.92	1.67	1.21	1.35	1.25	1.24	0.58		0.76	0.61	0.53	0.44	0.42
	Health Risk	178	155	112	125	116	115	54		71	57	49	41	39
1,3-Butadiene	Annual Avg	0.28	0.26	0.19	0.32	0.25	0.27	0.20		0.24	0.18	0.14	0.13	0.12
	Health Risk	106	97	72	120	95	101	75		90	66	51	50	43
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08				0.10	0.09	0.09
	Health Risk	35	34		28		27	20				25	23	24
Chromium, Hexavalent	Annual Avg			0.20	0.19	0.21	0.20	0.11		0.10	0.10	0.10		
	Health Risk			30	28	32	30	16		15	15	16		
<i>para</i> -Dichlorobenzene	Annual Avg			0.11	0.11	0.10	0.12	0.10				0.10	0.13	0.15
	Health Risk			7	7	7	8	7				7	9	10
Formaldehyde	Annual Avg	1.84	1.98	1.30	1.37	1.78	2.02	2.16	1.79	1.96				
	Health Risk	14	15	10	10	13	15	16	13	14				
Methylene Chloride	Annual Avg	0.76	0.58	0.52	0.83	0.50	0.62	0.50				0.50	0.28	0.23
	Health Risk	3	2	2	3	2	2	2				2	1	1
Perchloroethylene	Annual Avg	0.19	0.21	0.13	0.11	0.09	0.12	0.07				0.08	0.06	0.05
	Health Risk	8	8	5	5	3	5	3				3	2	2
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		350	319	243	332	274	305	197	16	194	138	153	126	119

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-24

San Francisco Bay Area Air Basin

Contra Costa County: Concord - 2975 Treat Boulevard

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.41			1.39	1.46	0.62	0.86	0.76		0.87			
	Health Risk	7			7	7	3	4	4		4			
Benzene	Annual Avg	1.84	1.58	1.41	1.13	1.08	1.09	0.48	0.56	0.57	0.57			
	Health Risk	171	147	130	105	100	101	44	52	53	53			
1,3-Butadiene	Annual Avg	0.32	0.27	0.25	0.31	0.23	0.24	0.15	0.18	0.19	0.16			
	Health Risk	118	100	95	114	87	91	56	66	72	58			
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08						
	Health Risk	34	33		29		27	22						
Chromium, Hexavalent	Annual Avg				0.19	0.18	0.21	0.11	0.11		0.10			
	Health Risk				28	27	32	16	17		15			
<i>para</i> -Dichlorobenzene	Annual Avg			0.15	0.13	0.14	0.13	0.13	0.14					
	Health Risk			10	8	9	9	8	9					
Formaldehyde	Annual Avg	1.99			1.99	1.69	2.21	2.30	2.05		2.64			
	Health Risk	15			15	12	16	17	15		19			
Methylene Chloride	Annual Avg	0.67	0.51	0.66	0.54	0.54	0.55	0.55	0.50					
	Health Risk	2	2	2	2	2	2	2	2					
Perchloroethylene	Annual Avg	0.34	0.42	0.39	0.20	0.10	0.15	0.08	0.10					
	Health Risk	13	17	16	8	4	6	3	4					
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		360	299	253	316	248	287	172	169	125	149			

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-25

*San Francisco Bay Area Air Basin*Contra Costa County: Richmond - 13th Street

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg			0.78		0.92	0.36	0.59						
	Health Risk			4		4	2	3						
Benzene	Annual Avg		1.92	1.54	1.76	1.70	1.44	1.00						
	Health Risk		177	143	163	157	133	92						
1,3-Butadiene	Annual Avg		0.27	0.26	0.39	0.31	0.30	0.25						
	Health Risk		102	98	148	116	113	94						
Carbon Tetrachloride	Annual Avg		0.12		0.11		0.10	0.08						
	Health Risk		33		29		25	21						
Chromium, Hexavalent	Annual Avg			0.19		0.15	0.26	0.13						
	Health Risk			28		23	39	19						
<i>para</i> -Dichlorobenzene	Annual Avg		0.14	0.12	0.12	0.10	0.12	0.19						
	Health Risk		9	8	8	7	8	13						
Formaldehyde	Annual Avg			1.08		1.32	2.22	4.27						
	Health Risk			8		10	16	31						
Methylene Chloride	Annual Avg		0.62	0.54	0.67	0.50	0.54	0.65						
	Health Risk		2	2	2	2	2	2						
Perchloroethylene	Annual Avg		0.15	0.09	0.09	0.06	0.04	0.03						
	Health Risk		6	4	4	2	2	1						
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk			329	295	354	321	340	276						

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

San Francisco Bay Area Air Basin

Contra Costa County: San Pablo - El Portal

		Annual Average Concentrations and Health Risks												
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg										0.55			
	Health Risk										3			
Benzene	Annual Avg									0.56	0.42			
	Health Risk									52	39			
1,3-Butadiene	Annual Avg									0.15	0.12			
	Health Risk									56	45			
Carbon Tetrachloride	Annual Avg													
	Health Risk													
Chromium, Hexavalent	Annual Avg										0.10			
	Health Risk										15			
<i>para</i> -Dichlorobenzene	Annual Avg													
	Health Risk													
Formaldehyde	Annual Avg										1.24			
	Health Risk										9			
Methylene Chloride	Annual Avg													
	Health Risk													
Perchloroethylene	Annual Avg													
	Health Risk													
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk										108	111			

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-27

San Francisco Bay Area Air Basin

San Francisco County: San Francisco - Arkansas Street

Annual Average Concentrations and Health Risks														
TAC	Conc./Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.32				0.98	0.40		0.75	0.54			0.57	0.54
	Health Risk	6				5	2		4	3			3	3
Benzene	Annual Avg		1.49	1.25		1.07	0.95	0.53	0.51	0.63	0.65	0.48	0.38	
	Health Risk		138	116		99	88	49	48	59	61	45	35	
1,3-Butadiene	Annual Avg		0.25	0.23		0.26	0.23	0.18	0.17	0.22	0.17	0.13	0.11	
	Health Risk		95	88		97	85	68	62	81	65	48	42	
Carbon Tetrachloride	Annual Avg		0.12				0.10	0.08				0.10	0.09	
	Health Risk		33				26	21				25	23	
Chromium, Hexavalent	Annual Avg				0.19	0.18	0.25	0.12	0.13	0.10		0.12		0.09
	Health Risk				29	26	37	18	19	15		18		13
<i>para</i> -Dichlorobenzene	Annual Avg		0.15	0.13		0.10	0.15	0.12	0.12			0.11	0.14	
	Health Risk		10	9		7	10	8	8			7	9	
Formaldehyde	Annual Avg	1.71				1.33	1.58		1.62	1.45			1.51	2.03
	Health Risk	13				10	12		12	11			11	15
Methylene Chloride	Annual Avg		3.22	0.88		0.60	0.63	0.66	0.50			0.60	0.26	
	Health Risk		11	3		2	2	2	2			2	1	
Perchloroethylene	Annual Avg		0.23	0.13		0.11	0.09	0.08	0.07			0.07	0.07	
	Health Risk		9	5		4	4	3	3			3	3	
Diesel PM	Annual Avg													
	Health Risk													
No Monitoring Data Available														
Total Health Risk		19	296	221	29	250	266	169	158	169	126	148	127	31

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-28

San Francisco Bay Area Air Basin

Santa Clara County: San Jose - 4th Street

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.53	1.55	1.41	1.58	1.27	0.35	1.04	0.97	0.77	0.93	0.79	0.76	
	Health Risk	7	8	7	8	6	2	5	5	4	4	4	4	
Benzene	Annual Avg	3.02	2.44	2.03	1.89	1.88	1.55	0.97	0.93	1.04	0.73	0.70		
	Health Risk	280	226	188	175	174	144	89	86	97	68	65		
1,3-Butadiene	Annual Avg	0.55	0.39	0.44	0.49	0.39	0.35	0.31	0.29	0.29	0.23	0.19		
	Health Risk	207	145	164	182	145	131	117	108	110	85	72		
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08				0.10		
	Health Risk	33	34		28		27	20				25		
Chromium, Hexavalent	Annual Avg			0.29	0.25	0.25	0.33	0.17	0.13	0.11	0.10	0.13		
	Health Risk			43	37	38	49	25	20	17	15	19		
<i>para</i> -Dichlorobenzene	Annual Avg			0.12	0.12	0.10	0.12	0.14	0.12			0.12		
	Health Risk			8	8	7	8	10	8			8		
Formaldehyde	Annual Avg	2.27	2.00	2.09	1.83	2.16	2.28	2.70	2.56	2.24	2.69	2.24	2.27	
	Health Risk	17	15	15	13	16	17	20	19	16	20	16	17	
Methylene Chloride	Annual Avg	0.83	6.65	0.66	0.58	0.80	0.69	0.55	0.75			0.50		
	Health Risk	3	23	2	2	3	2	2	3			2		
Perchloroethylene	Annual Avg	0.16	0.15	0.10	0.09	0.06	0.07	0.07	0.10			0.09		
	Health Risk	6	6	4	4	3	3	3	4			4		
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		553	457	431	457	392	383	291	253	244	192	215	21	

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-29

San Francisco Bay Area Air Basin

Air Basin Summary

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.30	1.40	1.03	1.31	1.17	0.42	0.83	0.73	0.65	0.76	0.68	0.73	0.63
	Health Risk	6	7	5	6	6	2	4	4	3	4	3	4	3
Benzene	Annual Avg	2.18	1.82	1.49	1.49	1.40	1.26	0.71	0.61	0.71	0.60	0.56	0.43	0.45
	Health Risk	202	169	138	138	129	116	66	56	66	55	52	39	42
1,3-Butadiene	Annual Avg	0.36	0.29	0.28	0.37	0.29	0.28	0.22	0.19	0.22	0.17	0.15	0.13	0.14
	Health Risk	135	108	103	138	108	104	82	70	82	64	56	50	51
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08				0.09	0.09	0.09
	Health Risk	34	33		29		26	21				25	23	24
Chromium, Hexavalent	Annual Avg			0.23	0.20	0.19	0.25	0.13	0.12	0.10	0.10	0.12		
	Health Risk			34	29	29	37	19	17	15	15	18		
<i>para</i> -Dichlorobenzene	Annual Avg		0.12	0.12	0.12	0.11	0.13	0.14	0.12			0.11	0.14	0.15
	Health Risk		8	8	8	7	8	9	8			7	9	10
Formaldehyde	Annual Avg	1.87	1.73	1.43	1.56	1.66	2.06	2.62	1.85	1.76	2.09	1.77	2.32	2.57
	Health Risk	14	13	11	11	12	15	19	14	13	15	13	17	19
Methylene Chloride	Annual Avg	1.04	2.32	0.65	0.72	0.59	0.60	0.58	0.55			0.53	0.27	0.22
	Health Risk	4	8	2	2	2	2	2	2			2	1	1
Perchloroethylene	Annual Avg	0.20	0.23	0.17	0.13	0.08	0.09	0.07	0.07			0.08	0.06	0.05
	Health Risk	8	9	7	5	3	4	3	3			3	2	2
Diesel PM***	Annual Avg	(2.5)					(1.9)					(1.6)		
	Health Risk	(750)					(570)					(480)		
Average Basin Health Risk		403	355	308	366	296	314	225	174	179	153	179	145	152

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

*** The Diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, Diesel PM is not included in the Average Basin Health Risk number.

San Joaquin Valley Air Basin

Kern County: Bakersfield - Chester Avenue

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.87	1.83	1.60	2.00									
	Health Risk	9	9	8	10									
Benzene	Annual Avg	2.68	2.22	1.54	1.47									
	Health Risk	248	205	143	136									
1,3-Butadiene	Annual Avg	0.39	0.31	0.24	0.33									
	Health Risk	146	115	90	123									
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.10									
	Health Risk	33	33		27									
Chromium, Hexavalent	Annual Avg			0.21	0.21									
	Health Risk			31	31									
<i>para</i> -Dichlorobenzene	Annual Avg			0.12	0.17									
	Health Risk			8	11									
Formaldehyde	Annual Avg	2.44	1.62	1.36	1.85									
	Health Risk	18	12	10	14									
Methylene Chloride	Annual Avg	0.92	0.65	0.52	0.99									
	Health Risk	3	2	2	3									
Perchloroethylene	Annual Avg	0.09	0.13	0.08	1.48									
	Health Risk	3	5	3	59									
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		460	381	295	414									

*. Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-31

San Joaquin Valley Air Basin

Kern County: Bakersfield - 5558 California Avenue

		Annual Average Concentrations and Health Risks												
TAC	Conc./Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg						0.49	1.59	1.22	1.27	1.69	1.19	1.27	1.37
	Health Risk						2	8	6	6	8	6	6	7
Benzene	Annual Avg						1.14	0.78	0.57	0.70	0.71	0.58	0.55	0.51
	Health Risk						106	72	53	65	66	54	51	47
1,3-Butadiene	Annual Avg						0.21	0.21	0.16	0.20	0.15	0.13	0.14	0.10
	Health Risk						78	79	60	75	58	47	52	37
Carbon Tetrachloride	Annual Avg						0.10	0.08				0.09	0.09	0.09
	Health Risk						26	21				25	23	24
Chromium, Hexavalent	Annual Avg						0.26	0.13	0.10	0.10	0.10	0.10		0.08
	Health Risk						39	19	15	15	16	16		12
<i>para</i> -Dichlorobenzene	Annual Avg						0.11	0.11	0.12			0.11	0.13	0.15
	Health Risk						7	7	8			7	9	10
Formaldehyde	Annual Avg						1.92	3.48	3.12	2.99	3.67	2.79	3.44	3.15
	Health Risk						14	26	23	22	27	21	25	23
Methylene Chloride	Annual Avg						0.54	0.64	0.50		0.50	0.58	0.26	0.10
	Health Risk						2	2	2		2	2	1	0
Perchloroethylene	Annual Avg						0.09	0.12	0.04			0.07	0.06	0.05
	Health Risk						4	5	2			3	2	2
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk							278	239	169	183	177	181	169	162

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-32

San Joaquin Valley Air Basin

Fresno County: Fresno - 1st Street

		Annual Average Concentrations and Health Risks												
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg		2.29		1.89	1.40	0.67			1.50		1.43	1.60	1.55
	Health Risk		11		9	7	3			7		7	8	8
Benzene	Annual Avg		2.42	1.34	1.35	1.44	1.24	0.79	1.00	0.83	0.80	0.73	0.61	0.63
	Health Risk		224	124	125	133	115	73	92	76	74	68	56	58
1,3-Butadiene	Annual Avg		0.46	0.26	0.34	0.36	0.30	0.23	0.23	0.27	0.21	0.20	0.18	0.19
	Health Risk		173	99	129	134	113	88	87	100	80	73	68	73
Carbon Tetrachloride	Annual Avg		0.12		0.11		0.10	0.08				0.10	0.09	0.09
	Health Risk		32		28		26	21				25	23	23
Chromium, Hexavalent	Annual Avg			0.21	0.15	0.14	0.22	0.10	0.11	0.10	0.10	0.13		0.06
	Health Risk			31	22	21	33	16	16	15	15	20		9
<i>para</i> -Dichlorobenzene	Annual Avg			0.10	0.10	0.14	0.13	0.11	0.14			0.10	0.14	0.15
	Health Risk			7	7	9	8	7	9			7	9	10
Formaldehyde	Annual Avg		2.32		1.64	2.01	2.41			3.42		3.56	4.32	4.16
	Health Risk		17		12	15	18			25		26	32	31
Methylene Chloride	Annual Avg		0.62	0.54	0.69	0.59	0.58	0.50	0.52			0.50	0.27	0.24
	Health Risk		2	2	2	2	2	2	2			2	1	1
Perchloroethylene	Annual Avg		0.14	0.10	0.10	0.06	0.07	0.04	0.04			0.06	0.05	0.03
	Health Risk		6	4	4	2	3	2	2			2	2	1
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk			465	267	338	323	321	209	208	223	169	230	199	214

*. Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-33

San Joaquin Valley Air Basin

Stanislaus County: Modesto - I Street (Courthouse)

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg		1.51	1.37	1.75	1.44	0.51	1.17	1.25					
	Health Risk		7	7	8	7	2	6	6					
Benzene	Annual Avg													
	Health Risk													
1,3-Butadiene	Annual Avg													
	Health Risk													
Carbon Tetrachloride	Annual Avg													
	Health Risk													
Chromium, Hexavalent	Annual Avg			0.27	0.23	0.22	0.32	0.16	0.11					
	Health Risk			40	34	33	48	25	17					
<i>para</i> -Dichlorobenzene	Annual Avg													
	Health Risk													
Formaldehyde	Annual Avg		1.43	1.32	1.82	1.86	2.16	2.58	2.43					
	Health Risk		11	10	13	14	16	19	18					
Methylene Chloride	Annual Avg													
	Health Risk													
Perchloroethylene	Annual Avg													
	Health Risk													
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk			18	57	55	54	66	50	41					

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-34

San Joaquin Valley Air Basin

Stanislaus County: Modesto - 14th Street

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg										1.65			
	Health Risk										8			
Benzene	Annual Avg	2.25	1.86	1.20	1.23	1.14	1.20	0.70	0.77	0.85	0.61			
	Health Risk	208	172	111	114	105	111	65	71	78	56			
1,3-Butadiene	Annual Avg	0.38	0.35	0.22	0.35	0.29	0.30	0.24	0.21	0.26	0.16			
	Health Risk	142	133	84	131	110	112	89	78	98	61			
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.09	0.07		0.11				
	Health Risk	34	35		30		25	20		30				
Chromium, Hexavalent	Annual Avg										0.10			
	Health Risk										15			
<i>para</i> -Dichlorobenzene	Annual Avg		0.11	0.10	0.12	0.10	0.11	0.10	0.15					
	Health Risk		7	7	8	7	7	7	10					
Formaldehyde	Annual Avg										3.09			
	Health Risk										23			
Methylene Chloride	Annual Avg	0.65	0.61	0.55	0.65	0.62	0.58	0.50	0.59	0.51				
	Health Risk	2	2	2	2	2	2	2	2	2				
Perchloroethylene	Annual Avg	0.15	0.15	0.12	0.11	0.09	0.05	0.04	0.05	0.04				
	Health Risk	6	6	5	4	3	2	2	2	1				
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		392	355	209	289	227	259	185	163	209	163			

*. Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-35

San Joaquin Valley Air Basin

San Joaquin County: Stockton - Hazelton Street

		Annual Average Concentrations and Health Risks												
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.47	1.75	1.07	1.31	1.10		0.90	0.90	1.00	1.07	0.64	0.59	0.80
	Health Risk	7	9	5	6	5		4	4	5	5	3	3	4
Benzene	Annual Avg	2.01	1.95	1.37		1.23	1.05	0.64	0.52	0.69	0.65	0.58	0.45	0.52
	Health Risk	186	181	127		113	97	60	48	64	60	54	42	48
1,3-Butadiene	Annual Avg	0.34	0.32	0.22		0.28	0.25	0.21	0.18	0.21	0.18	0.16	0.13	0.15
	Health Risk	126	121	82		106	94	77	68	77	68	58	49	55
Carbon Tetrachloride	Annual Avg	0.13	0.14				0.10	0.08		0.12		0.10	0.09	0.09
	Health Risk	35	36				26	20		30		26	23	24
Chromium, Hexavalent	Annual Avg			0.22	0.25	0.25		0.14			0.10	0.12		0.12
	Health Risk			33	37	37		21			15	18		18
<i>para</i> -Dichlorobenzene	Annual Avg		0.10	0.10		0.10	0.11	0.10	0.11			0.11	0.13	0.15
	Health Risk		7	7		7	7	7	7			7	9	10
Formaldehyde	Annual Avg	1.81	1.88	1.24	1.38	1.56		2.35	2.24	2.33	2.68	1.61	1.48	2.07
	Health Risk	13	14	9	10	12		17	16	17	20	12	11	15
Methylene Chloride	Annual Avg	0.63	0.50	0.60		0.50	0.75	0.53	0.50	0.50	0.50	0.53	0.27	0.14
	Health Risk	2	2	2		2	3	2	2	2	2	2	1	1
Perchloroethylene	Annual Avg	0.13	0.11	0.12		0.07	0.06	0.07	0.09	0.03		0.11	0.05	0.04
	Health Risk	5	5	5		3	2	3	4	1		4	2	1
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		374	375	270	53	285	229	211	149	196	170	184	140	175

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-36

San Joaquin Valley Air Basin

Air Basin Summary

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.94	1.84	1.38	1.73	1.29	0.54	1.28	1.19	1.30	1.56	1.09	1.15	1.24
	Health Risk	9	9	7	8	6	3	6	6	6	8	5	6	6
Benzene	Annual Avg	2.45	2.11	1.36	1.32	1.33	1.16	0.73	0.71	0.76	0.69	0.63	0.54	0.55
	Health Risk	227	196	126	122	123	107	68	66	71	64	58	50	51
1,3-Butadiene	Annual Avg	0.41	0.36	0.24	0.34	0.32	0.26	0.22	0.20	0.23	0.18	0.16	0.15	0.15
	Health Risk	154	135	89	127	121	99	83	73	88	67	59	56	55
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08		0.11		0.10	0.09	0.09
	Health Risk	34	34		29		26	20		30		25	23	24
Chromium, Hexavalent	Annual Avg			0.23	0.21	0.19	0.28	0.13	0.11	0.10	0.10	0.12		
	Health Risk			34	31	29	42	20	16	15	15	18		
<i>para</i> -Dichlorobenzene	Annual Avg		0.11	0.11	0.13	0.11	0.11	0.10	0.13			0.11	0.13	0.15
	Health Risk		7	7	9	7	8	7	9			7	9	10
Formaldehyde	Annual Avg	2.45	1.81	1.46	1.67	1.80	2.10	2.96	2.77	2.86	3.44	2.61	3.08	3.13
	Health Risk	18	13	11	12	13	15	22	20	21	25	19	23	23
Methylene Chloride	Annual Avg	0.76	0.59	0.55	0.76	0.59	0.61	0.54	0.53	0.52	0.50	0.53	0.27	0.16
	Health Risk	3	2	2	3	2	2	2	2	2	2	2	1	1
Perchloroethylene	Annual Avg	0.13	0.13	0.10	0.47	0.07	0.07	0.07	0.06	0.04		0.08	0.05	0.04
	Health Risk	5	5	4	19	3	3	3	2	2		3	2	2
Diesel PM***	Annual Avg	(2.6)					(1.7)					(1.3)		
	Health Risk	(780)					(510)					(390)		
Average Basin Health Risk		450	401	280	360	304	305	231	194	235	181	196	170	172

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

*** The Diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, Diesel PM is not included in the Average Basin Health Risk number.

Table C-37

San Diego Air Basin

San Diego County: Chula Vista

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.10	1.21	0.99	1.16	1.32	0.64	0.83	0.91	0.70	0.91	0.75	0.78	0.75
	Health Risk	5	6	5	6	6	3	4	4	3	4	4	4	4
Benzene	Annual Avg	2.00	1.21	1.03	0.80	1.08	0.81		0.63	0.61		0.55	0.42	0.42
	Health Risk	186	112	95	74	100	75		58	56		51	39	39
1,3-Butadiene	Annual Avg	0.28	0.18	0.18	0.23	0.26	0.21		0.16	0.15		0.14	0.11	0.11
	Health Risk	105	69	69	85	98	77		61	57		51	41	40
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.10		0.10					0.09	0.09	0.09
	Health Risk	35	34		27		26					25	23	24
Chromium, Hexavalent	Annual Avg			0.24	0.20	0.17	0.20	0.11	0.10	0.10	0.11	0.10		0.05
	Health Risk			37	30	25	29	16	15	15	16	16		8
<i>para</i> -Dichlorobenzene	Annual Avg		0.10	0.11	0.13	0.12	0.11		0.13				0.15	0.15
	Health Risk		7	7	8	8	7		8				10	10
Formaldehyde	Annual Avg	1.26	1.30	1.10	1.46	2.08	1.81	2.10	2.37	2.00	2.49	2.14	2.54	2.56
	Health Risk	9	10	8	11	15	13	15	17	15	18	16	19	19
Methylene Chloride	Annual Avg	0.58	0.59	0.81	1.01	0.57	0.57		0.62			0.65	0.16	0.13
	Health Risk	2	2	3	3	2	2		2			2	1	0
Perchloroethylene	Annual Avg	0.24	0.23	0.21	0.14	0.13	0.15		0.10			0.08	0.06	0.05
	Health Risk	9	9	8	6	5	6		4			3	2	2
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		351	249	232	250	259	238	35	169	146	38	168	139	146

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-38

San Diego Air Basin

San Diego County: El Cajon - Redwood Avenue

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.56	1.78	1.46	1.66			1.23			1.17	0.92	1.11	1.20
	Health Risk	8	9	7	8			6			6	4	5	6
Benzene	Annual Avg	2.50	2.20	1.94	1.51		1.14	0.86	0.89	0.91	0.98	0.74	0.59	0.56
	Health Risk	231	203	179	140		106	79	82	84	91	69	54	52
1,3-Butadiene	Annual Avg	0.39	0.33	0.33	0.40		0.28	0.25	0.24	0.24	0.24	0.18	0.16	0.13
	Health Risk	145	125	125	150		105	95	88	90	90	68	61	50
Carbon Tetrachloride	Annual Avg	0.13	0.13				0.10	0.08				0.10	0.09	0.09
	Health Risk	35	33				27	21				25	23	24
Chromium, Hexavalent	Annual Avg			0.24	0.18			0.10	0.11		0.10	0.10		0.04
	Health Risk			36	26			16	17		15	15		6
<i>para</i> -Dichlorobenzene	Annual Avg			0.12	0.13		0.12	0.11	0.13				0.15	0.15
	Health Risk			8	8		8	7	8				10	10
Formaldehyde	Annual Avg	2.01	1.76	1.42	2.06			3.14			2.84	2.32	2.63	3.41
	Health Risk	15	13	10	15			23			21	17	19	25
Methylene Chloride	Annual Avg	0.59	1.07	1.87	1.25		0.70	0.61	0.52		0.52	0.87	0.19	0.18
	Health Risk	2	4	7	4		2	2	2		2	3	1	1
Perchloroethylene	Annual Avg	0.33	0.31	0.32	0.26		0.35	0.17	0.15			0.10	0.07	0.07
	Health Risk	13	12	13	10		14	7	6			4	3	3
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		449	399	385	361		262	256	203	174	225	205	176	177

*. Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-39

San Diego Air Basin

Air Basin Summary

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.33	1.50	1.22	1.41	1.48	0.64	1.03	1.00	0.86	1.04	0.84	0.95	0.97
	Health Risk	6	7	6	7	7	3	5	5	4	5	4	5	5
Benzene	Annual Avg	2.25	1.70	1.48	1.16	1.39	0.98	0.76	0.76	0.76	0.86	0.65	0.51	0.49
	Health Risk	208	158	137	107	129	90	71	70	70	79	60	47	45
1,3-Butadiene	Annual Avg	0.33	0.26	0.26	0.31	0.31	0.24	0.21	0.20	0.20	0.22	0.16	0.14	0.12
	Health Risk	125	97	97	117	115	91	78	75	74	83	60	51	45
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.10		0.10	0.08				0.09	0.09	0.09
	Health Risk	35	34		27		26	20				25	23	24
Chromium, Hexavalent	Annual Avg			0.24	0.19	0.16	0.18	0.11	0.11	0.10	0.10	0.10		
	Health Risk			36	28	23	27	16	16	15	15	15		
<i>para</i> -Dichlorobenzene	Annual Avg		0.10	0.11	0.13	0.15	0.12	0.11	0.13				0.15	0.15
	Health Risk		7	8	8	10	8	7	8				10	10
Formaldehyde	Annual Avg	1.64	1.53	1.26	1.76	2.25	2.13	2.62	2.62	2.27	2.67	2.23	2.59	2.99
	Health Risk	12	11	9	13	17	16	19	19	17	20	16	19	22
Methylene Chloride	Annual Avg	0.59	0.83	1.34	1.13	0.73	0.63	0.59	0.57		0.53	0.76	0.17	0.16
	Health Risk	2	3	5	4	3	2	2	2		2	3	1	1
Perchloroethylene	Annual Avg	0.28	0.27	0.26	0.20	0.21	0.25	0.15	0.13			0.09	0.06	0.06
	Health Risk	11	11	11	8	8	10	6	5			4	2	2
Diesel PM***	Annual Avg	(2.9)					(1.9)					(1.4)		
	Health Risk	(870)					(570)					(420)		
Average Basin Health Risk		399	328	309	319	312	273	224	200	180	204	187	158	154

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

*** The Diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, Diesel PM is not included in the Average Basin Health Risk number.

Table C-40

Sacramento Valley Air Basin

Butte County: Chico - Manzanita Avenue

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg				1.55	1.11	0.54	1.15	1.17	0.96	1.41	0.89	1.10	1.33
	Health Risk				8	5	3	6	6	5	7	4	5	6
Benzene	Annual Avg				1.10	1.14	0.85	0.67		0.55	0.64	0.52	0.50	0.54
	Health Risk				102	106	78	62		51	59	48	46	50
1,3-Butadiene	Annual Avg				0.30	0.25	0.21	0.22		0.17	0.15	0.14	0.16	0.15
	Health Risk				111	94	77	81		64	56	54	59	58
Carbon Tetrachloride	Annual Avg				0.11		0.10	0.08					0.09	0.09
	Health Risk				29		26	21					23	23
Chromium, Hexavalent	Annual Avg				0.15	0.13	0.16	0.10	0.10	0.10	0.10	0.10	0.10	0.06
	Health Risk				23	19	24	16	15	15	15	15	15	9
<i>para</i> -Dichlorobenzene	Annual Avg				0.10	0.13	0.10	0.12					0.13	0.15
	Health Risk				7	8	7	8					9	10
Formaldehyde	Annual Avg				2.08	1.78	2.04	2.99	3.42	2.63	4.15	2.76	3.25	4.47
	Health Risk				15	13	15	22	25	19	31	20	24	33
Methylene Chloride	Annual Avg				0.81	0.50	0.53	0.58					0.36	0.09
	Health Risk				3	2	2	2					1	0
Perchloroethylene	Annual Avg				0.06	0.27	0.05	0.05					0.02	0.02
	Health Risk				2	11	2	2					0.9	1
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk					300	258	234	220	46	154	168	141	183	190

*. Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-41

Sacramento Valley Air Basin

Butte County: Chico - Salem Street

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.27												
	Health Risk	6												
Benzene	Annual Avg	1.96	1.91											
	Health Risk	182	177											
1,3-Butadiene	Annual Avg	0.40	0.36											
	Health Risk	151	136											
Carbon Tetrachloride	Annual Avg	0.12	0.12											
	Health Risk	32	33											
Chromium, Hexavalent	Annual Avg													
	Health Risk													
<i>para</i> -Dichlorobenzene	Annual Avg													
	Health Risk													
Formaldehyde	Annual Avg	1.49												
	Health Risk	11												
Methylene Chloride	Annual Avg	0.53	0.57											
	Health Risk	2	2											
Perchloroethylene	Annual Avg	0.05	0.05											
	Health Risk	2	2											
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		386	350											

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-42

Sacramento Valley Air Basin

Placer County: Roseville - North Sunrise Boulevard

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg					0.96	0.25	0.90	0.93	0.88		0.77	0.39	0.95
	Health Risk					5	1	4	4	4		4	2	5
Benzene	Annual Avg					0.91	0.75	0.44	0.46	0.45	0.48	0.39	0.34	0.34
	Health Risk					84	70	40	42	42	44	36	32	32
1,3-Butadiene	Annual Avg					0.19	0.17	0.14	0.12	0.14	0.11	0.10	0.09	0.08
	Health Risk					73	63	51	46	52	40	36	35	29
Carbon Tetrachloride	Annual Avg						0.10	0.08				0.09	0.09	0.09
	Health Risk						26	20				25	23	24
Chromium, Hexavalent	Annual Avg					0.13	0.19	0.11	0.10	0.10	0.10	0.10		0.05
	Health Risk					19	29	16	15	15	15	15		7
<i>para</i> -Dichlorobenzene	Annual Avg					0.28	0.17	0.10	0.15			0.10	0.13	0.15
	Health Risk					19	11	7	10			7	9	10
Formaldehyde	Annual Avg					1.71	1.78	2.52	2.42	2.42		2.25	1.57	3.12
	Health Risk					13	13	19	18	18		17	12	23
Methylene Chloride	Annual Avg					0.82	0.54	0.50	0.50			0.52	0.23	0.08
	Health Risk					3	2	2	2			2	1	0
Perchloroethylene	Annual Avg					0.07	0.05	0.06	0.06			0.05	0.03	0.03
	Health Risk					3	2	2	3			2	1	1
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk						219	217	161	140	131	99	144	115	131

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-43

Sacramento Valley Air Basin

Sacramento County: Citrus Heights - Sunrise Boulevard

Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.32												
	Health Risk	6												
Benzene	Annual Avg	2.08	1.85	1.41										
	Health Risk	192	171	130										
1,3-Butadiene	Annual Avg	0.35	0.30	0.31										
	Health Risk	133	114	115										
Carbon Tetrachloride	Annual Avg	0.12	0.12											
	Health Risk	33	32											
Chromium, Hexavalent	Annual Avg													
	Health Risk													
<i>para</i> -Dichlorobenzene	Annual Avg			0.11										
	Health Risk			7										
Formaldehyde	Annual Avg	1.66												
	Health Risk	12												
Methylene Chloride	Annual Avg	0.76	0.54	0.50										
	Health Risk	3	2	2										
Perchloroethylene	Annual Avg	0.10	0.09	0.08										
	Health Risk	4	4	3										
Diesel PM	Annual Avg	No Monitoring Data Available												
	Health Risk													
Total Health Risk		383	323	257										

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-44

Sacramento Valley Air Basin

Air Basin Summary

		Annual Average Concentrations and Health Risks												
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Acetaldehyde	Annual Avg	1.29			1.37	1.04	0.39	1.03	1.05	0.92	1.23	0.83	0.74	1.14
	Health Risk	6			7	5	2	5	5	4	6	4	4	6
Benzene	Annual Avg	2.02	1.88	1.35	1.00	1.02	0.80	0.56	0.55	0.50	0.56	0.45	0.42	0.44
	Health Risk	187	174	125	92	95	74	51	51	47	52	42	39	41
1,3-Butadiene	Annual Avg	0.38	0.33	0.28	0.29	0.22	0.19	0.18	0.16	0.15	0.13	0.12	0.13	0.12
	Health Risk	142	125	106	108	83	70	66	60	58	48	45	47	44
Carbon Tetrachloride	Annual Avg	0.12	0.12		0.11		0.10	0.08				0.09	0.09	0.09
	Health Risk	33	32		29		26	21				25	23	24
Chromium, Hexavalent	Annual Avg			0.17	0.14	0.13	0.18	0.11	0.10	0.10	0.10	0.10	0.10	
	Health Risk			26	21	19	26	16	15	15	15	15	15	
<i>para</i> -Dichlorobenzene	Annual Avg			0.11	0.10	0.20	0.14	0.11	0.14			0.10	0.13	0.15
	Health Risk			7	7	14	9	7	10			7	9	10
Formaldehyde	Annual Avg	1.57			1.77	1.75	1.91	2.76	2.92	2.52	3.61	2.51	2.41	3.79
	Health Risk	12			13	13	14	20	22	19	27	18	18	28
Methylene Chloride	Annual Avg	0.65	0.56	0.55	0.98	0.66	0.53	0.54	0.52		0.60	0.57	0.29	0.08
	Health Risk	2	2	2	3	2	2	2	2		2	2	1	0
Perchloroethylene	Annual Avg	0.07	0.07	0.06	0.05	0.17	0.05	0.06	0.05			0.06	0.03	0.03
	Health Risk	3	3	3	2	7	2	2	2			2	1	1
Diesel PM***	Annual Avg	(2.5)					(1.6)					(1.2)		
	Health Risk	(750)					(480)					(360)		
Average Basin Health Risk		385	336	269	282	238	225	190	167	143	150	160	157	154

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as ug/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

*** The Diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, Diesel PM is not included in the Average Basin Health Risk number.

Table C-45

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